

data to include a newly added or modified engine, as described in paragraph (b)(3) of this section, use the appropriate FELs with corresponding production volumes to calculate emission credits for the model year, as described in subpart H of this part. In all other circumstances, you must use the higher FEL for the entire family to calculate emission credits under subpart H of this part.

(2) You may ask to lower the FEL for your engine family only if you have test data from production engines showing that emissions are below the proposed lower FEL. The lower FEL applies only to engines you produce after we approve the new FEL. Use the appropriate FELs with corresponding production volumes to calculate emission credits for the model year, as described in subpart H of this part.

§ 1045.230 How do I select engine families?

(a) For purposes of certification, divide your product line into families of engines that are expected to have similar emission characteristics throughout their useful life as described in this section. Your engine family is limited to a single model year.

(b) Group engines into the same engine family if they are the same in all the following aspects:

(1) The combustion cycle and fuel. See paragraph (e) of this section for special provisions that apply for dual-fuel engines.

(2) Method of air aspiration (for example, turbocharged vs. naturally aspirated).

(3) The number, location, volume, and composition of catalytic converters.

(4) The number, arrangement (such as in-line or vee configuration), and approximate bore diameter of cylinders.

(5) Method of control for engine operation, other than governing (i.e., mechanical or electronic).

(6) The numerical level of the applicable emission standards. For example, an engine family may not include engines certified to different family emission limits, though you may change family emission limits without recertifying as specified in § 1045.225.

(c) You may subdivide a group of engines that is identical under paragraph (b) of this section into different engine families if you show the expected emission characteristics are different during the useful life.

(d) You may group engines that are not identical with respect to the things listed in paragraph (b) of this section into the same engine family, as follows:

(1) In unusual circumstances, you may group such engines into the same engine family if you show that their emission characteristics during the useful life will be similar.

(2) If you are a small-volume engine manufacturer, you may group all your high-performance engines into a single engine family.

(3) The provisions of this paragraph (e) do not exempt any engines from meeting all the emission standards and requirements in subpart B of this part.

(e) You may certify dual-fuel or flexible-fuel engines in a single engine family. You may include dedicated-fuel versions of this same engine model in the same engine family, as long as they are identical to the engine configuration with respect to that fuel type for the dual-fuel or flexible-fuel version of the engine. For example, if you produce an engine that can alternately run on gasoline and natural gas, you can include the gasoline-only and natural gas-only versions of the engine in the same engine family as the dual-fuel engine if engine operation on each fuel type is identical with or without installation of components for operating on the other fuel.

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§ 1045.235 What emission testing must I perform for my application for a certificate of conformity?

This section describes the emission testing you must perform to show compliance with the emission standards in §§ 1045.103 and 1045.105. See § 1045.205(p) regarding emission testing related to the not-to-exceed standards. See §§ 1045.240 and 1045.245 and 40 CFR part 1065, subpart E, regarding service accumulation before emission testing.

(a) Select an emission-data engine from each engine family for testing as